

IN THE CLAIMS

1. (Original) A method comprising:
finding a location of a first defect on a wafer using a semiconductor defect inspection instrument;
analyzing a composition of the first defect using the semiconductor defect inspection instrument; and
marking the location of the first defect on a wafer map using a first mark to identify a type of the first defect.
2. (Original) The method according to claim 1, wherein marking the location using a first mark comprises using a first mark with a shape that is dependent upon the type of the first defect.
3. (Original) The method according to claim 1, wherein marking the location using a first mark comprises using a first mark with a color that is dependent upon the type of the first defect.
4. (Original) The method according to claim 1, further comprising graphing a characteristic of the first defect concurrently with marking the location on the wafer map.
5. (Original) The method according to claim 1, further comprising storing and analyzing a characteristic of the first defect electronically using software.
6. (Original) The method according to claim 1, further comprising:
finding a location of a second defect on the wafer using the semiconductor defect inspection instrument;
analyzing a composition of the second defect using the semiconductor defect inspection instrument; and
marking the location of the second defect on the wafer map using a second mark to identify a type of the second defect; and
using the first and second marks to prepare a graph to assist in statistically analyzing the first and second defects.

7. (Currently amended) A wafer defect map, comprising:
a schematic representation of a semiconductor wafer that includes demarcations corresponding to the location of chip boundaries; and
a marking corresponding to a defect on the semiconductor wafer, the marking identifying a type and a composition of the defect,
a location of the marking on the wafer map corresponding to a location of the defect on the wafer.
8. (Original) The wafer defect map according to claim 7, the marking configured to identify the type of the defect by using a color that is associated with the type of the defect.
9. (Original) The wafer defect map according to claim 7, the marking configured to identify the type of the defect by using a shape that is associated with the type of the defect.
10. (Original) The wafer defect map according to claim 7, wherein the location of the defect and the type of the defect is determined using a semiconductor defect inspection instrument.
11. (Original) A method comprising:
identifying a defect location and a defect type for each of at least two defects on a semiconductor wafer;
determining a chemical composition of each of the at least two defects;
preparing a wafer defect map to visually represent the defect location and the defect type for each of the at least two defects; and
statistically representing the at least two defects with at least one visual aid.
12. (Original) The method according to claim 11, further comprising, for each of the at least two defects, placing a marking on the wafer defect map that corresponds to the defect location.
13. (Original) The method according to claim 12, wherein placing a marking comprises using a marking that is color-coded based upon the defect type.

14. (Original) The method according to claim 11, wherein identifying a the defect location and the defect type comprises using an optical or scanning electron microscope.

15. (Original) The method according to claim 11, wherein determining a chemical composition comprises performing an AES analysis on each of the at least two defects.

16. (Original) The method according to claim 11, wherein statistically representing the at least two defects comprises constructing a table having columns corresponding to the defect type, the chemical composition, a defect cause, and the defect location.

17. (Original) The method according to claim 11, wherein statistically representing the at least two defects comprises preparing a bar graph that represents the at least two defects according to the defect type.

18. (Original) The method according to claim 11, wherein preparing the wafer defect map and statistically representing the at least two defects is performed electronically.

19. (Original) The method according to claim 18, wherein identifying a the defect location and the defect type, and determining a the chemical composition of each of the at least two defects is also performed electronically.

20. (Original) The method according to claim 11, further comprising analyzing the at least one visual aid to determine appropriate corrective action in a wafer fabrication process.

21. (Original) A method of statistically analyzing wafer defects on a semiconductor wafer to improve yield, said method comprising:
identifying a location and a type of the wafer defects;
determining a composition of the wafer defects;
preparing a wafer defect map to visually represent the location and the type of the wafer defects; and

preparing a bar graph that represents a number of the wafer defects according to the type of the wafer defects.